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## Memorandum

To	Ethan Finkel, EPA Task Order Project Officer	Page	1 of 2
CC	350 Memoranda		
Subject	TO 65 Walton & Lonsbury: Replacement Pages for Draft Final Feasibility Study to Address Change in Irrigation Well PRG for Hexavalent Chromium		
From	Barbara Weir, AECOM Task Order Manager		
Date	September 18, 2019		

Per your email correspondence documenting EPA's decision to revise the Preliminary Remediation Goal (PRG) for hexavalent chromium in irrigation well water from 100 µg/L to 31 µg/L, AECOM has prepared replacement pages for the Draft Final Feasibility Study report (July 2019) to document this change.

There is one page of text, one table, two figures, and portions of two appendices that were determined to require editing to reflect this PRG change, as follows:

### Main Body of Report

- Page 2-8, section that discusses Groundwater PRGs
- Table 2-5 PRGs for Residential Groundwater
- Figure 2-5 Groundwater PRG Exceedances for Irrigation Scenario
- Figure 3-13 Estimated Extents of Hexavalent Chromium in Groundwater Above Irrigation and Drinking Water PRGs

### Appendix B Calculation of Preliminary Remediation Goals

- Table B-2 Human Health Preliminary Remediation Goals (PRGs) for Groundwater – Walton & Lonsbury

### Appendix C PRG Exceedances

- Table C-5 Comparison of RI Groundwater Analytical Results, Phases 1, 2, and 3 (Detected Analytes Only) to PRGs

Additional details regarding some of the changes are presented below.

### Text Change

The text change (Page 2-8, last sentence of first paragraph) is shown below.

As discussed in Section 1.7.3, a supplemental risk evaluation was performed in this FS related to use of groundwater in an irrigation scenario. The risk contributors ( $HI > 1$ ,  $ILCR > 10^{-6}$ ) for this

exposure scenario include TCE, vinyl chloride, and hexavalent chromium. The human health risk-based PRGs developed for these COCs are presented in Attachment A.5 of Appendix B, and summarized in Table B-2 of Appendix B and on Table 2-5. For this scenario, the selected PRGs for hexavalent chromium and for vinyl chloride each corresponds to a cancer risk level of  $1 \times 10^{-4}$ , and the selected PRG for TCE corresponds to an HQ of 1. ~~while the selected PRG for hexavalent chromium corresponds to a cancer risk level of  $3 \times 10^{-4}$  and is also equal to the MCL for total chromium for potable water.~~

#### Figure Changes

The change in Figure 2-5 was minor, encompassing four additional wells with hexavalent chromium results greater than 31 µg/L but less than 100 µg/L.

Figure 3-13 was reviewed and it was determined that the available data/well network for contouring the hexavalent chromium plumes in groundwater is not robust enough to be able to draw a 30 µg/L contour line. Although a new contour line was not drawn, the green shading illustrating the estimated extent of groundwater above the irrigation well PRG for hexavalent chromium was expanded slightly to encompass well AE-11B. Hexavalent chromium results for well AE-11B were 57.4 µg/L (57 µg/L in field duplicate) during one sampling round and lower at 13.6 µg/L during an earlier sampling round. Figure 4-1, which tries to estimate the properties for which an institutional control will be needed to prevent installation of irrigation wells, has not been changed and does include the property where well AE-11B is located.

#### Appendix C, Table C-5 Changes

The irrigation well PRG for hexavalent chromium was updated on this table and groundwater sample results with total or dissolved hexavalent chromium greater than 31 µg/L but less than 100 µg/L were highlighted in green to indicate that the irrigation well PRG was exceeded. The changes affected six monitoring wells. For four of these monitoring wells, results from other rounds of sampling had lower hexavalent chromium (below 31 µg/L), and therefore these four wells were newly identified as wells where there were impacts above the PRG (resulting in updates to Figure 2-5). For the other two monitoring wells, results from other rounds of sampling had higher hexavalent chromium (greater than 100 µg/L), and therefore these wells had already been included on Figure 2-5 as having a PRG exceedance.

Replacement cover pages noting the date these revisions were made (September 2019), the replacement text page, the replacement table and figures, and the replacement pages for Appendices B and C are attached to this memo.

We suggest that EPA include this memo with attached replacement pages in the administrative record for the Site.



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USEPA

*Prepared by:*  
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Chelmsford, Mass.  
60308115.12  
July 2019 (revised Sept 2019)

# Draft Final Feasibility Study Walton & Lonsbury Superfund Site Attleboro, Massachusetts

EPA Contract No. EP-S1-06-01  
EPA Task Order No. 0065-RICO-01GM



*Prepared for:*  
USEPA

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Chelmsford, Mass.  
60308115.12  
July 2019 (revised Sept 2019)

# Draft Final Feasibility Study Walton & Lonsbury Superfund Site Attleboro, Massachusetts

EPA Contract No. EP-S1-06-01  
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As discussed in Section 1.7.3, a supplemental risk evaluation was performed in this FS related to use of groundwater in an irrigation scenario. The risk contributors ( $HI > 1$ ,  $ILCR > 10^{-6}$ ) for this exposure scenario include TCE, vinyl chloride, and hexavalent chromium. The human health risk-based PRGs developed for these COCs are presented in Attachment A.5 of Appendix B, and summarized in Table B-2 of Appendix B and on Table 2-5. For this scenario, the selected PRGs for hexavalent chromium and for vinyl chloride each correspond to a cancer risk level of  $1 \times 10^{-4}$ , and the selected PRG for TCE corresponds to an HQ of 1.

A qualitative screening of the selected groundwater PRGs for irrigation well scenario was performed against residential vapor intrusion exposure, using the May 2018 resident groundwater vapor intrusion screening levels (VISLs) from EPA website <https://www.epa.gov/vaporintrusion/vapor-intrusion-screening-level-calculator> to ensure that the selected PRGs are also protective of the vapor intrusion exposure pathway. For the irrigation well scenario, the groundwater COCs are TCE, vinyl chloride and hexavalent chromium. The selected groundwater TCE and vinyl chloride PRGs were screened for vapor intrusion against their VISLs since they are considered volatile. Hexavalent chromium was not screened since it is not considered volatile. Residential groundwater VISLs are  $1.2 \mu\text{g/L}$  and  $0.15 \mu\text{g/L}$  for TCE and vinyl chloride, respectively. Performing a qualitative screening, the selected TCE PRG of  $98 \mu\text{g/L}$  (based on  $HQ = 1$ ) would result in estimated  $8 \times 10^{-5}$  cancer risk and the selected vinyl chloride PRG of  $7 \mu\text{g/L}$  (based on  $ILCR = 10^{-4}$ ) would result in estimated  $5 \times 10^{-5}$  cancer risk for resident vapor intrusion pathway. These estimated risks are within EPA acceptable risk range and therefore these PRGs are protective of the vapor intrusion exposure pathway for a residential scenario.

### Surface Water PRGs

Surface water PRGs were developed for a recreational user scenario with a potential cumulative cancer risk greater than  $10^{-4}$  or target organ HI greater than 1, considering the ingestion, dermal contact, and inhalation exposure pathways, as appropriate. Risk-based PRG development was required for each COC (in this case, only hexavalent chromium), defined for this site as a chemical with an individual cancer risk above  $10^{-6}$  or HQ above 1 (see Attachment A.2 of Appendix B, which includes the HHRA RAGS Part D Table 10 table for the exposure pathway).

The human health risk-based PRGs provided in Table B-3 of Appendix B correspond to target cancer risk levels of  $10^{-6}$ ,  $10^{-5}$ , and  $10^{-4}$ . Risk-based PRGs were calculated using equations and exposure assumptions presented in Attachment A.2 of Appendix B, Table 2 (the same as those used in the HHRA). Toxicity values used in the calculation of the risk-based PRGs are presented in Attachment A.2 of Appendix B, Table 3. Attachment A.2 of Appendix B, Tables 4 and 5 present intermediate PRG calculations. The human health risk-based surface water PRG for hexavalent chromium is summarized in Table B-3 of Appendix B and Table 2-6a. The basis for selection for the PRG is provided on the tables. The selected hexavalent chromium PRG corresponds to a cancer risk level of  $10^{-5}$ .

Table 2-5  
PRGs for Residential Groundwater

Residential Drinking Water Scenario<sup>1</sup>

Analyte	Selected PRG ( $\mu\text{g}/\text{L}$ )	Basis	Maximum Detection <sup>2</sup> ( $\mu\text{g}/\text{L}$ )
1,1,1-Trichloroethane	200	MCL	2600
1,1-Dichloroethane	2.8	ILCR = $10^{-6}$	1700
cis-1,2-Dichloroethene	70	MCL	790
Trichloroethylene (TCE)	5	MCL	1300
Vinyl chloride	2	MCL	33
1,4-Dioxane	0.46	ILCR = $10^{-6}$	23
Arsenic	10	MCL	13
Chromium	100	MCL	86,400
Chromium, Hexavalent	0.035	ILCR = $10^{-6}$	83,000
Cobalt	6.0	HQ = 1	635
Lead	15	Action Level	108
Manganese	300	Health Adv.	21,000

Irrigation Well Scenario

Analyte	Selected PRG ( $\mu\text{g}/\text{L}$ )	Basis	Maximum Detection <sup>2</sup> ( $\mu\text{g}/\text{L}$ )
Trichloroethylene (TCE)	98	HQ = 1	1300
Vinyl chloride	7	ILCR = $10^{-4}$	33
Chromium, Hexavalent	31	ILCR = $10^{-4}$	83,000

Notes:

See Appendix B of FS for PRG development and basis

$\mu\text{g}/\text{L}$  – micrograms per liter

HQ – Hazard Quotient

ILCR – Incremental Lifetime Cancer Risk

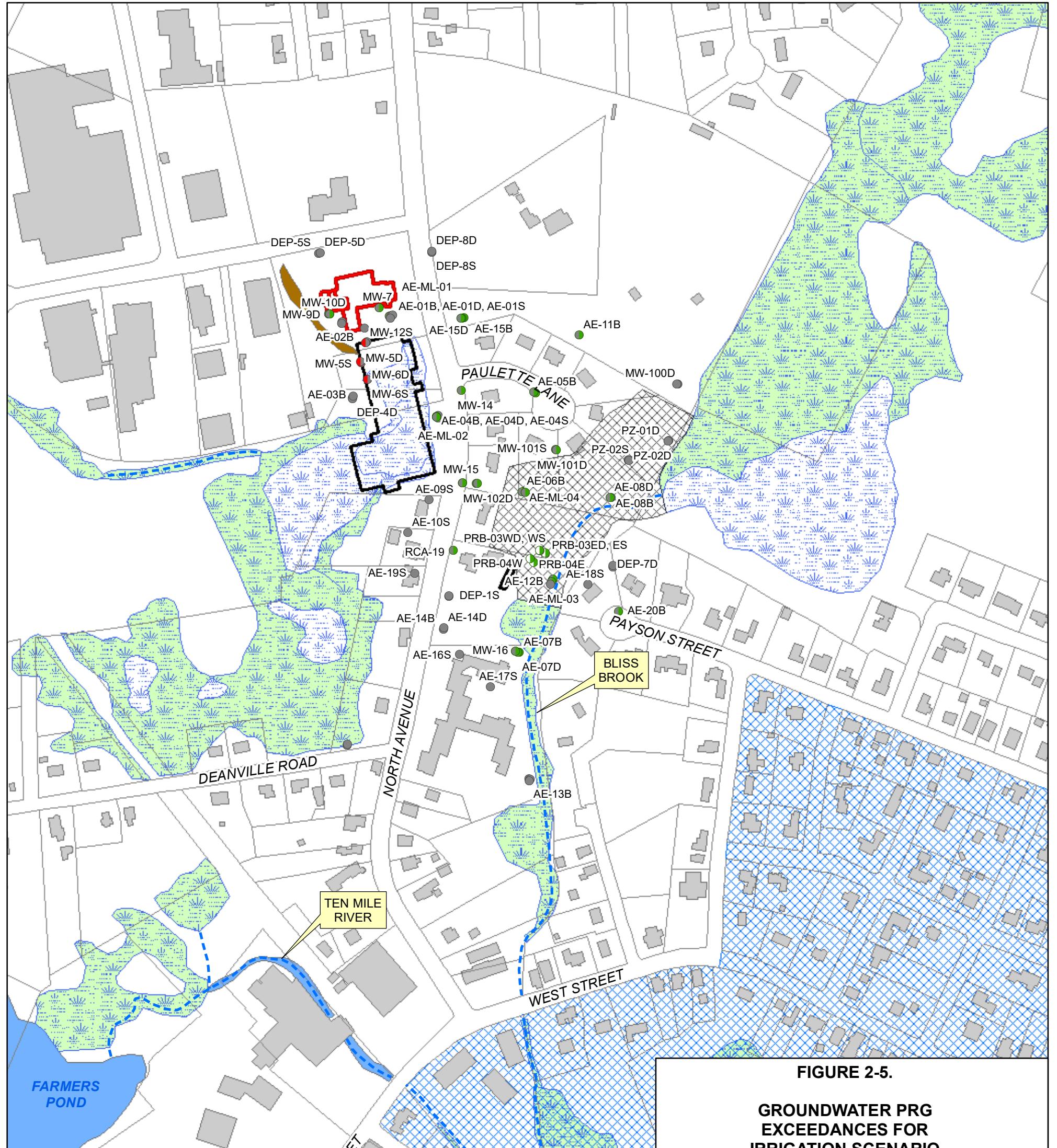
MCL – Maximum Contaminant Level

Health Adv. - Health Advisory on Manganese (EPA-822-R-04-003; January 2004)

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<sup>1</sup> The PRGs for residential drinking water are more accurately described as Performance Standards rather than PRGs, as they are intended to be used to evaluate the performance of remedial alternatives that may be implemented to prevent migration of contaminated groundwater into the downgradient Bungay River Water Resource Protection District.

<sup>2</sup> Maximum Detections are from Table 2.4 of the HHRA.



**FIGURE 2-5.**

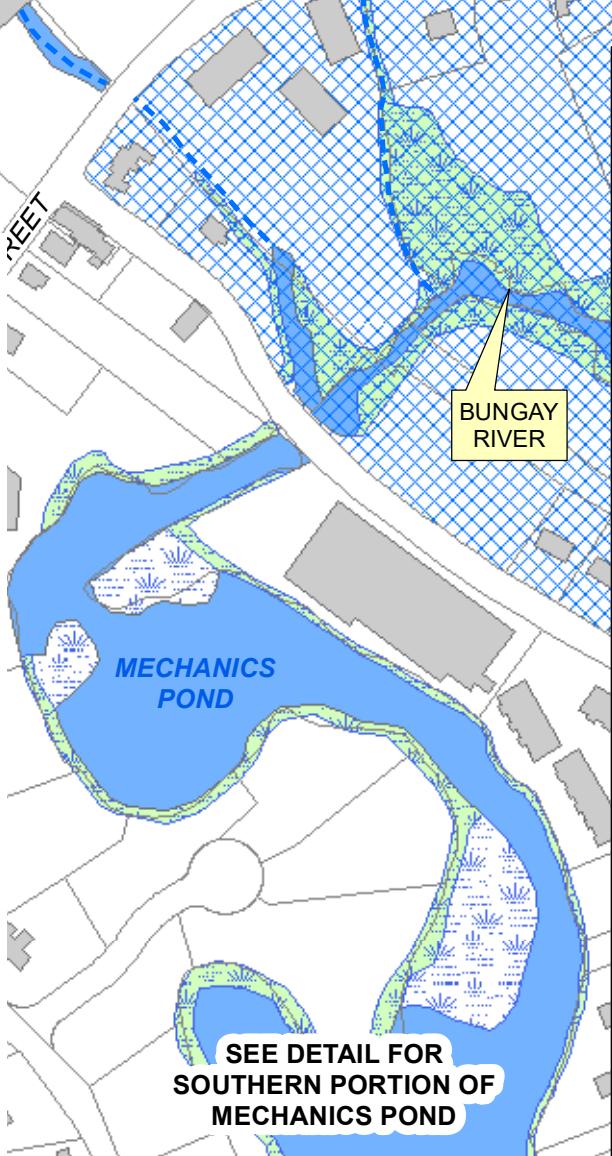
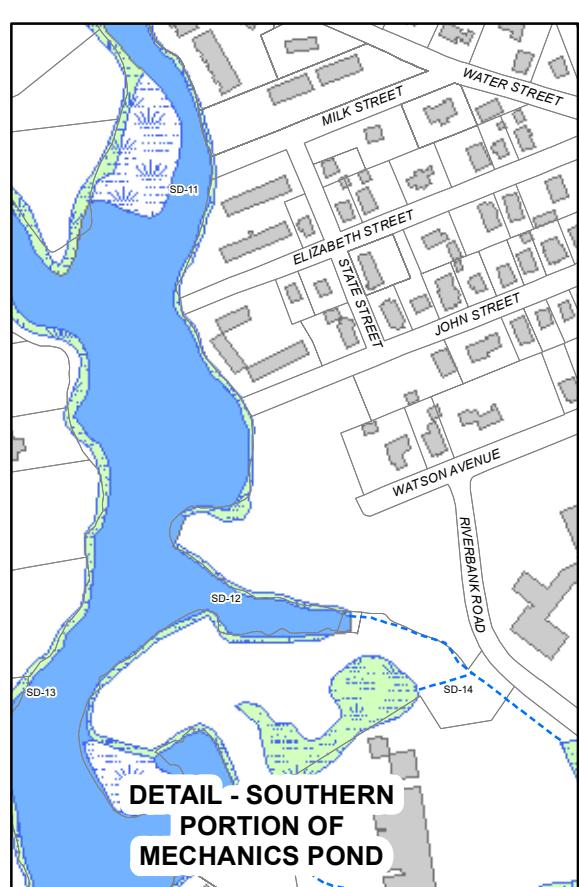
### GROUNDWATER PRG EXCEEDANCES FOR IRRIGATION SCENARIO

#### Legend

- TCE or VC exceeds groundwater PRG
- No VOCs detected above groundwater PRG
- VOCs not analyzed
- Hex Cr detected above groundwater PRG
- No metals detected above groundwater PRG(s)
- Parcel Boundary
- Former Building Footprint
- Limit of Closed Lagoon Area
- Bungay River Water Resource Protection District

#### Combined Wetlands

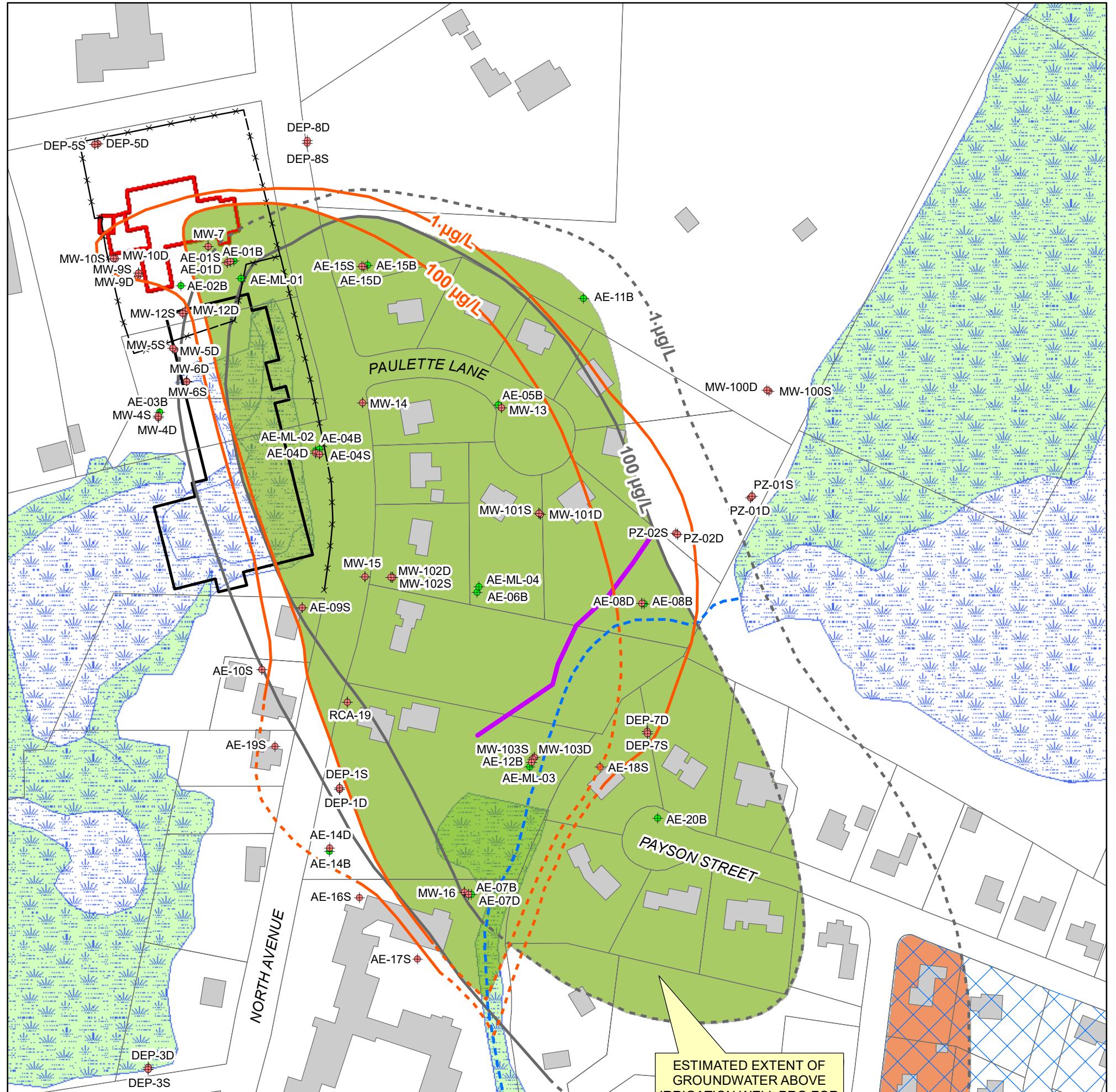
- Emergent/Open Water Wetland
- Forested/Shrub Wetland
- Open Water
- Stream Channel
- Area of Excavation by Removal Program
- Approximate Limit of Work for Removal Action and Site Restoration



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AECOM

1:3,200  
0 125 250 500 Feet



**FIGURE 3-13**

### ESTIMATED EXTENTS OF HEXAVALENT CHROMIUM IN GROUNDWATER ABOVE IRRIGATION AND DRINKING WATER PRGs

#### Legend

- Overburden Monitoring Well
- Bedrock Monitoring Well
- Existing PRB Trench
- Fence Installed by Removal Program
- Hexavalent Chromium Concentration Contour Based on Phase 3 Bedrock Groundwater Results
- Dashed Where Inferred or Estimated Based on Modeling
- Hexavalent Chromium Concentration Contour Based on Phase 3 Overburden Groundwater Results
- Dashed Where Inferred or Estimated Based on Modeling
- Former Building Footprint



ESTIMATED EXTENT OF GROUNDWATER ABOVE IRRIGATION WELL PRG FOR HEXAVALENT CHROMIUM (BASED ON WELL DATA AND MODELING)

ESTIMATED EXTENT OF GROUNDWATER ABOVE DRINKING WATER PRG FOR HEXAVALENT CHROMIUM WITHIN DISTRICT (BASED ON MODELING TO ESTIMATE 1 µg/L CONCENTRATION CONTOUR: SEE NOTE)

Note: Because the drinking water PRG for hexavalent chromium ( $0.035 \mu\text{g}/\text{L}$ ) is well below the reporting limit for RI groundwater data of  $0.5 \mu\text{g}/\text{L}$ , well data cannot be used to estimate a concentration contour line at the PRG.  $1 \mu\text{g}/\text{L}$  (twice the reporting limit) was selected as a value that could reasonably be estimated.

**TABLE B-2. HUMAN HEALTH PRELIMINARY REMEDIATION GOALS (PRGs) FOR GROUNDWATER - WALTON & LONSBURY**

Media/ Scenario	Contaminant	Regulatory Criteria		Risk-Based PRGs - Ingestion/Dermal/Inhalation				Additional Information					Selected PRG	Basis		
		Federal MCLs	MMCLs	ILCR			HQ = 1	Site-specific Background Levels <sup>1</sup>	MassDEP Background <sup>2</sup>	Health Advisory <sup>3</sup>	ORSG	Non-zero MCLGs				
				10 <sup>-6</sup>	10 <sup>-5</sup>	10 <sup>-4</sup>										
Groundwater - ug/L Site-wide (Residential Scenario)	1,1,1-Trichloroethane <sup>5</sup>	200	200	--	--	--		--	--	--	--	--	200	MCL ILCR = 10 <sup>-6</sup>		
	1,1-Dichloroethane	--	--	2.8	28	275	3753	--	--	--	70	--	2.8			
	cis-1,2-Dichloroethene	70	70	N/A	N/A	N/A	36	--	--	--	--	70	70	MCL		
	Trichloroethylene	5	5	0.49	4.9	49	2.8	--	--	--	--	--	5	MCL		
	Vinyl chloride	2	2	0.019	0.19	1.9	44	--	--	--	--	--	2	MCL		
	1,4-Dioxane	--	--	0.46	5	46	57	--	--	--	0.3	--	0.46	ILCR = 10 <sup>-6</sup>		
	Arsenic	10	10	0.052	0.52	5.2	6.0	--	5.5	--	--	--	10	MCL		
	Chromium <sup>5</sup>	100	100	--	--	--	--	--	4.9	--	--	--	100	MCL		
	Chromium, Hexavalent	--	--	0.035	0.35	3.5	44	--	--	--	--	--	0.035	ILCR = 10 <sup>-6</sup>		
	Cobalt	--	--	N/A	N/A	N/A	6.0	--	--	--	--	--	6.0	HQ = 1		
	Lead <sup>4</sup>	15	15	N/A	N/A	N/A	N/A	--	8.8	--	--	--	15	Action Level		
	Manganese	--	--	N/A	N/A	N/A	434	--	--	300	300	--	300	Health Adv.		
Groundwater - ug/L Site-wide (Irrigation Well Scenario)	Trichloroethylene	5	5	20	204	2040	98	--	--	--	--	--	98	HQ = 1 ILCR = 10 <sup>-4</sup>		
	Vinyl chloride	2	2	0.070	0.70	7.0	766	--	--	--	--	--	7.0			
	Chromium, Hexavalent	--	--	0.31	3.1	31	207	--	--	--	--	--	31	ILCR = 10 <sup>-4</sup>		
Groundwater - ug/L W&L Property (Const. Worker Scenario)	Chromium, Hexavalent	--	--	98	985	9846	3520	--	--	--	--	--	985	ILCR = 10 <sup>-5</sup>		

Notes

MCL - Maximum Contaminant Level. National Primary Drinking Water Regulations accessible at <http://www.epa.gov/safewater/contaminants/index.html>

MCLG - Maximum Contaminant Level Goal. National Primary Drinking Water Regulations accessible at <http://www.epa.gov/safewater/contaminants/index.html>

MMCL - Massachusetts Maximum Contaminant Level (310 CMR 22.00); accessible at <http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/standards-and-guidelines-for-drinking-water-contaminants.html#InorganicandOrganicChemicals>

ORSG - Massachusetts Office of Research and Standards Guidelines accessible at <http://www.mass.gov/eea/agencies/massdep/water/drinking/standards/standards-and-guidelines-for-drinking-water-contaminants.html#MassachusettsDrinkingWaterGuidelines>

-- = no guideline

ILCR - Incremental Lifetime Cancer Risk

HQ - Hazard Quotient

N/A - Not carcinogenic, or a carcinogen was not evaluated for potential non-carcinogenic effects

1. No site-specific background wells have yet been specified; -- = not applicable

2. From *Background Documentation for the Development of the Massachusetts Contingency Plan (MCP) Numerical Standards* (MassDEP, 1994); -- = not applicable

3. Health Advisory on Manganese (EPA-822-R-04-003; January 2004)

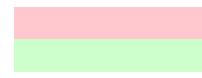
4. Lead was identified in the HHRA as a risk-driver, however, it was not quantitatively evaluated. Lead is regulated by a Treatment Technique that requires systems to control the corrosiveness of their water. If more than 10% of tap water samples exceed the action level, water systems must take additional steps to correct that.

5. Analyte included only due to detections in exceedance of Regulatory Criteria. As this analyte was not determined to be a risk driver in the Baseline Human Health Risk Assessment (BHHRA), risk-based PRG calculations are not included for this analyte/exposure scenario.

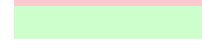
**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	AE-08B						AE-			
				WL-GW-AE-08B-1 8/11/2014 Field Sample	WL-GW-AE-08B-2 12/9/2014 Field Sample	WL-GW-AE-08B-3 9/15/2015 Field Sample	WL-GWF-AE-08B-1 8/11/2014 Field Sample	WL-GWF-AE-08B-2 12/9/2014 Field Sample	WL-GWF-AE-08B-3 9/15/2015 Field Sample	WL-GW-AE-08D-1 8/11/2014 Field Sample	WL-GW-AE-08D-2 12/9/2014 Field Sample	WL-GW-AE-08D-3 9/15/2015 Field Sample	
Mercury							0.2 UJ	0.2 UJ	0.2 U				
Nickel							8.7	4.7	1 UJ				
Potassium							1840	1740	1560 J				
Selenium							5 U	5 U	5 U				
Silver							1 U	1 UJ	1 U				
Sodium							30600	40800	16500				
Vanadium							5 U	5 U	5 U				
Zinc							5.1	5.1	4.9 J				
<u>Inorganics (ug/L)</u>													
Aluminum				20 UJ	2210	265 J				155 J	248		20 UJ
Antimony				2 U	2 U	0.07 J				0.67 J	2 U		2 U
Arsenic				1 U	1.8	0.41 J				1 U	1 U		0.19 J
Barium				13.5	23.4	11.5				8.6 J	10 U		10 U
Beryllium				1 U	1 U	1 U				1 U	1 U		0.041 J
Cadmium				0.14	0.4 U	0.054 J				0.036 J	0.4 U		1 U
Calcium				24500	24100	26100				22200	20000		23600
Chromium				249	897	781				15.4	11.7		34.4
Chromium, Hexavalent	0.035	31		252	906	719				18.2	12.9 J+		34.3
Cobalt	6			3.2	3.6	1 UJ				0.27 J	1 U		1 UJ
Copper				2 UJ	11.2	2.4				2 UJ	0.96 J		2 U
Cyanide				3.6 J+	2.5 U	10 U				4.5 J+	2.5 U		10 U
Iron				200 UJ	4030	766				281 J	386		200 U
Lead				0.2 U	3.8	1 U				0.46	0.64		1 U
Magnesium	15			7640 J	8700	7890 J				6050 J	5440		5980 J
Manganese	300			501	421	143 J				15.1	14.3		3 J
Mercury				0.058 J-	0.2 UJ	0.2 U				0.063 J-	0.2 UJ		0.2 U
Nickel				9.8	9.1	3.1 J				1.4	1.5		1 UJ
Potassium				1820	2070	1650 J				1850	2100		1960 J
Selenium				5 U	0.41 J	5 U				5 U	5 U		5 U
Silver				1 U	1 UJ	0.012 J				1 U	1 UJ		0.013 J
Sodium				29200	39100	39600				27200	26700		28500
Vanadium				5 U	5 U	5 U				5 U	5 U		5 U
Zinc				5.2 J+	21.7 J	5.6				4.7 J+	6.2 J		2.1
<u>Other</u>													
Dissolved oxygen, field (mg/L)				3.73	6.46	5.24				3.32	4.94		4.66
ORP, field (mV)				152.9	245.2	159.7				225.4	262.3		156.8
pH, field (S.U.)				5.89	5.98	5.61				5.8	5.76		5.6
Spec. cond., field (umho/cm)				383.9	449	522				318	331		364
Temperature, field (deg C)				14.5	10.69	14.5				14.5	10.16		14.23
Turbidity, field (N.T.U.)				0.23	4.43	2.77				5.46	4.85		1.81

Residential GW PRG Exceedance



Irrigation GW PRG Exceedance



**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	08D			AE-09S				AE-	
				WL-GWF-AE-08D-1 8/11/2014 Field Sample	WL-GWF-AE-08D-2 12/9/2014 Field Sample	WL-GWF-AE-08D-3 9/15/2015 Field Sample	WL-GW-AE-09S-1 8/5/2014 Field Sample	WL-GW-AE-09S-2 12/8/2014 Field Sample	WL-GWF-AE-09S-1 8/5/2014 Field Sample	WL-GWF-AE-09S-2 12/8/2014 Field Sample	WL-GW-AE-10S-1 8/5/2014 Field Sample	WL-GW-AE-10S-2 12/15/2014 Field Sample
<b>VOCs (ug/L)</b>												
1,1,1-Trichloroethane	200						0.76	0.23 J			0.5 U	0.33 J
1,1,2-Trichloroethane							0.5 U	0.5 U			0.5 U	0.5 U
1,1-Dichloroethane	2.8						32	20			8.8	8.4
1,1-Dichloroethene							7.3 J	4			4.1	5.1
1,2-Dibromo-3-chloropropane							0.5 U	0.5 U			0.5 U	0.5 U
1,2-Dichloroethane							0.5 U	0.5 U			0.5 U	0.5 U
2-Butanone							5 U	5 U			5 U	5 U
Acetone							5 U	5 U			5 U	5 U
Benzene							0.5 U	0.5 U			0.5 U	0.5 U
Bromodichloromethane							0.5 U	0.5 U			0.5 U	0.5 U
Bromoform							0.5 U	0.5 U			0.5 U	0.5 U
Carbon disulfide							0.5 U	0.5 U			0.5 U	0.5 U
Chloroethane							0.43 J	0.5 U			0.5 U	0.5 U
Chloroform							0.5 U	0.5 U			0.5 U	0.5 U
cis-1,2-Dichloroethene	70						51	40			25	37
Cyclohexane							0.5 U	0.5 U			0.5 U	0.5 U
Ethylbenzene							0.5 U	0.5 U			0.5 U	0.5 U
Isopropylbenzene							0.5 U	0.5 U			0.5 U	0.5 U
m,p-Xylene							0.5 U	0.5 U			0.5 U	0.5 U
Methyl tert-butyl ether							0.49 J	0.29 J			1	0.84
Methylcyclohexane							0.5 U	0.5 U			0.5 U	0.5 U
Methylene chloride							0.5 U	0.5 U			0.5 U	0.5 U
o-Xylene							0.5 U	0.5 U			0.5 U	0.5 U
Tetrachloroethene							0.5 U	0.5 U			0.5 U	0.5 U
Toluene							0.5 U	0.5 U			0.5 U	0.5 U
trans-1,2-Dichloroethene							0.5 U	0.5 U			0.5 U	0.5 U
Trichloroethene	5	98	7				9.2				4	8.6
Vinyl chloride	2						2.9				2	1.9
<b>1,4-Dioxane (ug/L)</b>												
1,4-Dioxane	0.46						2.4				0.77	
<b>Inorganics, Dissolved (ug/L)</b>												
Aluminum				20 U	20 U	20 UJ			20 UJ	1060 J+		
Antimony				2 U	2 U	2 U			2 U	2 U		
Arsenic				0.29 J	1 U	0.18 J			0.43 J	1 U		
Barium				10 U	10 U	10 U			215	207		
Beryllium				1 U	1 U	1 U			1 U	1 U		
Cadmium				0.036 J	0.4 U	0.026 J			0.43	0.4 U		
Calcium				22600	19900	24500			45600	42200		
Chromium	100			16.5 J	11.6	33.3			1.4 J	4.2		
Chromium, Hexavalent	0.035	31		17.9	12.3 J+	34.6			0.5 U	0.5 U		
Cobalt	6			1 U	1 U	1 UJ			11.8 J	9.8		
Copper				2 UJ	0.69 J	2 U			2 U	3		
Iron				9.5 J	200 U	200 U			10300 J	12300		
Lead				0.044 J	0.2 U	1 U			0.2 U	2.3		
Magnesium				5830	5300	6170 J			9740 J	10500		
Manganese	300			6.4 J	1.8 U	1.5			1610 J	1420		

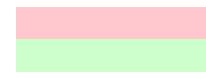
**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	10S		AE-11B						WL-GW-AE-12B-2 12/8/2014 Field Sample	
				WL-GWF-AE-10S-1 8/5/2014 Field Sample	WL-GWF-AE-10S-2 12/15/2014 Field Sample	WL-GW-AE-11B-2 12/11/2014 Field Sample	WL-GW-AE-11B-3 9/16/2015 Field Duplicate	WL-GW-AE-11B-3-D 9/16/2015 Field Duplicate	WL-GWF-AE-11B-2 12/11/2014 Field Sample	WL-GWF-AE-11B-3 9/16/2015 Field Duplicate	WL-GWF-AE-11B-3-D 9/16/2015 Field Duplicate		
<b>VOCs (ug/L)</b>													
1,1,1-Trichloroethane	200					0.5 U	0.5 U	0.5 U					9.8
1,1,2-Trichloroethane						0.5 U	0.5 U	0.5 U					0.5 U
1,1-Dichloroethane		2.8				0.5 U	0.5 U	0.5 U					10
1,1-Dichloroethene						0.5 U	0.5 U	0.5 U					2.9
1,2-Dibromo-3-chloropropane						0.5 U	0.5 U	0.5 U					0.5 U
1,2-Dichloroethane						0.5 U	0.5 U	0.5 U					0.5 U
2-Butanone						5 U	5 U	5 U					5 U
Acetone						5 U	5 U	5 U					5 U
Benzene						0.5 U	0.5 U	0.5 U					0.5 U
Bromodichloromethane						0.5 U	0.5 U	0.5 U					0.5 U
Bromoform						0.5 U	0.5 U	0.5 U					0.5 U
Carbon disulfide						0.5 U	0.5 U	0.5 U					0.5 U
Chloroethane						0.5 U	0.5 U	0.5 U					0.5 U
Chloroform						0.5 U	1.1	0.99					0.5 U
cis-1,2-Dichloroethene	70					0.5 U	0.5 U	0.5 U					5.5
Cyclohexane						0.5 U	0.5 U	0.5 U					0.5 U
Ethylbenzene						0.5 U	0.5 U	0.5 U					0.5 U
Isopropylbenzene						0.5 U	0.5 U	0.5 U					0.5 U
m,p-Xylene						0.5 U	0.5 U	0.5 U					0.5 U
Methyl tert-butyl ether						0.5 U	0.5 U	0.5 U					0.33 J
Methylcyclohexane						0.5 U	0.5 U	0.5 U					0.5 U
Methylene chloride						0.5 U	0.5 U	0.5 U					0.5 U
o-Xylene						0.5 U	0.5 U	0.5 U					0.5 U
Tetrachloroethene						0.5 U	0.5 U	0.5 U					0.54
Toluene						0.5 U	0.5 U	0.5 U					0.5 U
trans-1,2-Dichloroethene						0.5 U	0.5 U	0.5 U					0.5 U
Trichloroethene	5	98				0.5 U	0.5 U	0.5 U					23
Vinyl chloride	2	7				0.5 U	0.5 U	0.5 U					0.5 U
<b>1,4-Dioxane (ug/L)</b>													
1,4-Dioxane	0.46						0.1 U	0.1 U					
<b>Inorganics, Dissolved (ug/L)</b>													
Aluminum				20 UJ	23.7				20 U	20 UJ	20 U		
Antimony				2 U	2 U				2 U	2 U	2 U		
Arsenic				2.5	2.7				1 U	0.1 J	0.11 J		
Barium				280	323				10 U	10 U	10 U		
Beryllium				1 U	1 U				1 U	1 U	1 U		
Cadmium				0.04 U	0.4 U				0.4 U	0.037 J	0.027 J		
Calcium				65200	69800				19600	21100	20800		
Chromium	100			3.1 J	6.9				16.6	56.2	55.7		
Chromium, Hexavalent	0.035	31		0.5 U	0.5 U				15.1 J+	53.8	52.3		
Cobalt	6			1 UJ	2				1.2	1 UJ	1 UJ		
Copper				2 U	1.2 J				2 UJ	2 U	2 U		
Iron				12200 J	8540				200 U	200 U	200 U		
Lead				0.2 U	0.2 U				0.2 U	1 U	1 U		
Magnesium				15500 J	16200				4700	5050 J	5020 J		
Manganese	300			1070 J	1300				398	50.3	49.4		

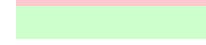
**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	10S		AE-11B						WL-GW-AE-12B-2 12/8/2014 Field Sample	
				WL-GWF-AE-10S-1 8/5/2014 Field Sample	WL-GWF-AE-10S-2 12/15/2014 Field Sample	WL-GW-AE-11B-2 12/11/2014 Field Sample	WL-GW-AE-11B-3 9/16/2015 Field Duplicate	WL-GW-AE-11B-3-D 9/16/2015 Field Duplicate	WL-GWF-AE-11B-2 12/11/2014 Field Sample	WL-GWF-AE-11B-3 9/16/2015 Field Duplicate	WL-GWF-AE-11B-3-D 9/16/2015 Field Duplicate		
Mercury				0.2 UJ	0.034 J				0.2 UJ	0.028 J	0.2 U		
Nickel				1.7 J	4.6				2.5	1.4 J	1.4 J		
Potassium				3020	3960				1990	1390 J	1390 J		
Selenium				5 U	5 U				5 U	5 U	5 U		
Silver				1 U	1 U				1 U	1 U	1 U		
Sodium				166000	171000				41100	38500	37500		
Vanadium				5 U	5 U				5 UJ	5 U	5 U		
Zinc				6.2	10.7				2.3 U	3 J	3.5 J		
<u>Inorganics (ug/L)</u>													
Aluminum						76.7	20 UJ	20 UJ					70.7
Antimony						2 U	2 U	2 U					2 U
Arsenic						1 U	0.14 J	0.15 J					1 U
Barium						10.2	10 U	10 U					38.1
Beryllium						1 U	1 U	1 U					1 U
Cadmium						0.4 UJ	0.051 J	0.029 J					0.4 U
Calcium						18900 J	21200	21000					41600
Chromium						20.6	61	60.3					8460
Chromium, Hexavalent						13.6 J+	57.4	57					8920
Cobalt						1.2	1 UJ	1 UJ					1.5
Copper						2 UJ	2 U	2 U					0.68 J
Cyanide						1.7 J	10 U	10 U					2.5 U
Iron						230	200 U	200 U					2570
Lead						0.2 U	1 U	1 U					0.21 U
Magnesium						4800 J	5140 J	5090 J					12500
Manganese						374	50.2 J	50.2 J					285
Mercury						0.2 UJ	0.2 U	0.2 U					0.2 UJ
Nickel						2.5	1.3 J	1.3 J					7.6
Potassium						2030	1350 J	1360 J					4460
Selenium						5 U	5 U	5 U					5 U
Silver						1 U	0.039 J	0.04 J					1 UJ
Sodium						41000	39700	38800					92800
Vanadium						R	5 U	5 U					5 U
Zinc						2.3 U	2.3	2.4					15.1 J
<u>Other</u>													
Dissolved oxygen, field (mg/L)						3.42	6.36						2.39
ORP, field (mV)						63.4	284.8						148.9
pH, field (S.U.)						5.98	5.56						5.91
Spec. cond., field (umho/cm)						388	361						964
Temperature, field (deg C)						11.8	13.95						9.54
Turbidity, field (N.T.U.)						2.81	2.18						4.82

Residential GW PRG Exceedance



Irrigation GW PRG Exceedance



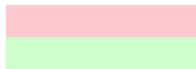
**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	AE-19S		AE-20B				AE-ML-01A		AE-M
				WL-GW-AE-19S-2 12/4/2014 Field Sample	WL-GWF-AE-19S-2 12/4/2014 Field Sample	WL-GW-AE-20B-2 12/4/2014 Field Sample	WL-GWF-AE-20B-3 9/15/2015 Field Sample	WL-GWF-AE-20B-2 12/4/2014 Field Sample	WL-GWF-AE-20B-3 9/15/2015 Field Sample	WL-GW-AE-ML-01A-3 9/22/2015 Field Sample	WL-GWF-AE-ML-01A-3 9/22/2015 Field Sample	WL-GW-AE-ML-01B-3 9/22/2015 Field Sample
<b>VOCs (ug/L)</b>												
1,1,1-Trichloroethane		200		3.7		0.5 U	0.5 U			0.5 U		0.5 U
1,1,2-Trichloroethane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
1,1-Dichloroethane		2.8		3.2		0.96	0.5 U			0.5 U		0.5 U
1,1-Dichloroethene				0.96 U		0.5 U	0.5 U			0.5 U		0.5 U
1,2-Dibromo-3-chloropropane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
1,2-Dichloroethane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
2-Butanone				5 U		5 U	5 U			5 U		5 U
Acetone				5 U		5 U	5 U			5 U		5 U
Benzene				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Bromodichloromethane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Bromoform				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Carbon disulfide				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Chloroethane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Chloroform				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
cis-1,2-Dichloroethene		70		1.6		3.1	0.5 U			2.6		2.3
Cyclohexane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Ethylbenzene				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Isopropylbenzene				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
m,p-Xylene				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Methyl tert-butyl ether				0.11 J		0.5 U	0.5 U			0.5 U		0.5 U
Methylcyclohexane				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Methylene chloride				0.5 U		0.5 U	0.5 U			0.95 U		0.5 U
o-Xylene				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Tetrachloroethene				0.5 U		0.5 U	0.5 U			0.58		0.5 U
Toluene				0.5 U		0.5 U	0.5 U			0.5 U		0.39 J
trans-1,2-Dichloroethene				0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
Trichloroethene		5	98	7.6		1.1	0.46 J			6.3		6.2
Vinyl chloride		2	7	0.5 U		0.5 U	0.5 U			0.5 U		0.5 U
<b>1,4-Dioxane (ug/L)</b>												
1,4-Dioxane		0.46						0.095 J			0.1 U	
<b>Inorganics, Dissolved (ug/L)</b>												
Aluminum					132				21.7	24.3 J		20 U
Antimony					2 U				2 U	2 U		2 U
Arsenic					0.47 J				0.35 J	0.37 J		2.9
Barium					56.8				42.7	15.2		75.1
Beryllium					1 U				1 U	0.041 J		1 U
Cadmium					0.4 U				0.4 U	0.065 J		0.11 J
Calcium					20300				44400	22600		93700
Chromium		100			2.4				1360	62.6		2 U
Chromium, Hexavalent		0.035			2 J+				1120	58.2		0.5 U
Cobalt		6	31		1 U				3.2	2.4 J		7.3 J
Copper					0.97 J				1.1 J	2 U		2 U
Iron					200 UJ				456	200 U		2010 J
Lead					0.2 U				0.2 U	1 U		1 U
Magnesium					4140				16500	8280 J		12400 J
Manganese					42.3 J				266 J	43.7		1660

**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	AE-19S		AE-20B				AE-ML-01A		AE-M
				WL-GW-AE-19S-2 12/4/2014 Field Sample	WL-GWF-AE-19S-2 12/4/2014 Field Sample	WL-GW-AE-20B-2 12/4/2014 Field Sample	WL-GWF-AE-20B-3 9/15/2015 Field Sample	WL-GWF-AE-20B-2 12/4/2014 Field Sample	WL-GWF-AE-20B-3 9/15/2015 Field Sample	WL-GW-AE-ML-01A-3 9/22/2015 Field Sample	WL-GWF-AE-ML-01A-3 9/22/2015 Field Sample	WL-GW-AE-ML-01B-3 9/22/2015 Field Sample
Mercury				0.2 UJ			0.2 UJ	0.2 U			0.2 U	
Nickel				2.4			5.3	3.9 J			2.9	
Potassium				7090 J			3090 J	1560 J			1930 J	
Selenium				5 U			5 U	5 U			5 U	
Silver				1 U			1 U	1 U			1 U	
Sodium				56100			57000	20400			68100 J	
Vanadium				5 U			5 U	5 U			0.19 J	
Zinc				13.5			26.5	11.2 J			10.7 J	
<u>Inorganics (ug/L)</u>												
Aluminum				1240		171	123 J			20 UJ		20 UJ
Antimony				2 U		2 U	0.078 J			2 U		2 U
Arsenic				0.95 J		0.47 J	0.48 J			3.2		1.4
Barium				54.5		40.1	15.5			72.7		90.5
Beryllium				1 U		1 U	0.046 J			1 U		1 U
Cadmium				0.4 U		0.4 U	0.053 J			0.13 J		0.046 J
Calcium				19100		43700	23600			87100		83900
Chromium				3.8 U		1340	78.2			2 U		2 U
Chromium, Hexavalent	0.035		31	1.7 J+		1270	61.3			0.5 U		0.5 U
Cobalt	6			1 U		3.1	2.1 J			7.5 J		0.88 J
Copper				2.9		2.1	2 U			2 U		2 U
Cyanide				1.7 J		3	10 U			10 U		10 U
Iron				1930		758	286			2110 J		680 J
Lead				1.4		0.38	1 U			1 U		1 U
Magnesium	15			4200		16200	8860 J			11700 J		8730 J
Manganese	300			76.1		253	40 J			1770		1950
Mercury				0.2 UJ		0.2 UJ	0.2 U			0.2 U		0.2 U
Nickel				3.6		5.3	3.6 J			2.8 J		1.3 J
Potassium				6690		2970	1490 J			1880		2610
Selenium				0.48 J		5 U	5 U			5 U		5 U
Silver				1 U		1 U	1 U			1 U		1 U
Sodium				53100		55600	21300			63900		73300
Vanadium				5 U		5 U	5 U			0.37 J		5 U
Zinc				13.5 J		24.7 J	9.1			29.7 J		15.9 J
<u>Other</u>												
Dissolved oxygen, field (mg/L)				7.41		1.18	3.15			0.53		0.33
ORP, field (mV)				255.9		-42.8	125.5			-41.3		-137
pH, field (S.U.)				5.84		6	5.64			6.6		7.39
Spec. cond., field (umho/cm)				430		648	349			855		802
Temperature, field (deg C)				12.35		11.14	14.11			15.72		16.43
Turbidity, field (N.T.U.)				17.3		8.12	4.11			2.5		0.73

Residential GW PRG Exceedance      Irrigation GW PRG Exceedance



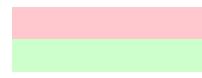
**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	MW-103S			MW-10D				MW	
				WL-GWF-MW-103S-2 12/10/2014 Field Sample	WL-GW-MW-103S-1 8/11/2014 Field Sample	WL-GW-MW-103S-2 12/10/2014 Field Sample	WL-GWF-MW-10D-1 8/19/2014 Field Sample	WL-GWF-MW-10D-2 12/16/2014 Field Sample	WL-GW-MW-10D-1 8/19/2014 Field Sample	WL-GW-MW-10D-2 12/16/2014 Field Sample	WL-GWF-MW-10S-1 8/20/2014 Field Sample	WL-GWF-MW-10S-2 12/16/2014 Field Sample
<b>VOCs (ug/L)</b>												
1,1,1-Trichloroethane	200			8.3	3.6				0.5 U	0.5 U		
1,1,2-Trichloroethane				0.5 U	0.5 U				0.5 U	0.5 U		
1,1-Dichloroethane	2.8			4.8	2.9				0.5 U	0.94		
1,1-Dichloroethene				2.5	1.5				0.5 U	0.5 U		
1,2-Dibromo-3-chloropropane				0.5 U	0.5 U				0.5 U	0.5 U		
1,2-Dichloroethane				0.5 U	0.5 U				0.5 U	0.5 U		
2-Butanone				5 U	5 U				5 U	5 U		
Acetone				5 U	5 U				5 U	5 U		
Benzene				0.5 U	0.5 U				0.5 U	0.5 U		
Bromodichloromethane				R	0.5 U				0.5 U	0.5 U		
Bromoform				R	0.5 U				0.5 U	0.5 U		
Carbon disulfide				0.5 U	0.5 U				0.5 U	0.5 U		
Chloroethane				0.5 U	0.5 U				0.5 U	0.5 U		
Chloroform				0.5 U	0.5 U				0.5 U	0.5 U		
cis-1,2-Dichloroethene	70			5.5	3.7				1.8	1.3		
Cyclohexane				0.5 U	0.5 U				0.5 U	0.5 U		
Ethylbenzene				0.5 U	0.5 U				0.5 U	0.5 U		
Isopropylbenzene				0.5 U	0.5 U				0.5 U	0.5 U		
m,p-Xylene				0.5 U	0.5 U				0.5 U	0.5 U		
Methyl tert-butyl ether				0.5 U	0.5 U				0.5 U	0.5 U		
Methylcyclohexane				0.5 U	0.5 U				0.5 U	0.5 U		
Methylene chloride				0.5 U	0.5 U				0.5 U	0.5 U		
o-Xylene				0.5 U	0.5 U				0.5 U	0.5 U		
Tetrachloroethene				0.5	0.42 J				0.29 J	0.26 J		
Toluene				0.5 U	0.5 U				0.5 U	0.5 U		
trans-1,2-Dichloroethene				0.5 U	0.5 U				0.5 U	0.5 U		
Trichloroethene	5	98		19	20				6.5	16		
Vinyl chloride	2	7		0.038	0.5 U				0.84	0.27 J		
<b>1,4-Dioxane (ug/L)</b>												
1,4-Dioxane	0.46			0.57				0.037 J				
<b>Inorganics, Dissolved (ug/L)</b>												
Aluminum				52.3 J+			20 U	20 U			51.9	20.1 U
Antimony				2 U			1.2 J	2 U			3.8	2.7 U
Arsenic				1 U			0.2 J	0.23 J			1.1	0.63
Barium				79.5			61.7	75.6			76.3	64.5
Beryllium				1 U			1 U	1 U			1 U	1 U
Cadmium				0.4 U			0.17	0.4 U			0.04 U	0.73
Calcium				24100			24100	12900			33800	29400
Chromium	100	31		3170			56.2	19.7			51.9	18.3
Chromium, Hexavalent	0.035			3130			46.9 J	6.6 J+			1.4 J	1.2 J+
Cobalt	6			5.1			7.1	14			6.3	7.9
Copper				2 UJ			4 UJ	3.5			2 U	25.4
Iron				841			400 U	13.8 J			1710	201
Lead				0.2 U			0.031 J	0.2 U			0.38	1.5
Magnesium				6950			3360	2050			4060	3630
Manganese	300			110			105	181			342	235

**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	MW-103S			MW-10D				MW	
				WL-GWF-MW-103S-2 12/10/2014 Field Sample	WL-GW-MW-103S-1 8/11/2014 Field Sample	WL-GW-MW-103S-2 12/10/2014 Field Sample	WL-GWF-MW-10D-1 8/19/2014 Field Sample	WL-GWF-MW-10D-2 12/16/2014 Field Sample	WL-GW-MW-10D-1 8/19/2014 Field Sample	WL-GW-MW-10D-2 12/16/2014 Field Sample	WL-GWF-MW-10S-1 8/20/2014 Field Sample	WL-GWF-MW-10S-2 12/16/2014 Field Sample
Mercury				0.2 UJ			0.2 UJ	0.2 UJ			0.2 UJ	0.2 UJ
Nickel				11			2 U	3			5.6	2.7
Potassium				4450			7230	8050			11200	9670
Selenium				5 U			0.25 J	5 U			0.3 J	5 U
Silver				1 U			2 UJ	1 U			1 U	1 U
Sodium				74400			35000	48600			14900	9410
Vanadium				5 UJ			5 U	5 U			5 U	5 U
Zinc				12.9			7.1	12.4			5.2	96.1
<u>Inorganics (ug/L)</u>												
Aluminum									93.1	31.4		
Antimony									1.3 J	2 U		
Arsenic									0.4 J-	0.18 J		
Barium									65.8	65.6		
Beryllium									1 U	1 UJ		
Cadmium									0.17	0.4 UJ		
Calcium									22800	11800		
Chromium									60.4	30.1		
Chromium, Hexavalent									46.5	6.9 J+		
Cobalt				0.035					7.6	11.9		
Copper									2.5	2.9 J-		
Cyanide									3.7 J+	2.8		
Iron									227	98.1 J		
Lead									0.26	0.27 U		
Magnesium									3290	2000		
Manganese				300					104	168		
Mercury									0.2 U	0.2 UJ		
Nickel									1.3	2.7		
Potassium									6920	7430		
Selenium									5 U	5 U		
Silver									1 U	1 UJ		
Sodium									34000	46700		
Vanadium									5 U	5 U		
Zinc									7.3 J+	11.9		
<u>Other</u>												
Dissolved oxygen, field (mg/L)									0	0.24		
ORP, field (mV)									194	183.8		
pH, field (S.U.)									5.79	6.15		
Spec. cond., field (umho/cm)									382	369		
Temperature, field (deg C)									16.5	12.42		
Turbidity, field (N.T.U.)									4.4	3.39		

Residential GW PRG Exceedance



Irrigation GW PRG Exceedance

**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	MW-14				MW-15				WL-GWF-MW-16-1 8/4/2014 Field Sample
				WL-GWF-MW-14-3 9/22/2015 Field Sample	WL-GW-MW-14-1 8/12/2014 Field Sample	WL-GW-MW-14-2 12/10/2014 Field Sample	WL-GW-MW-14-3 9/22/2015 Field Sample	WL-GWF-MW-15-1 8/12/2014 Field Sample	WL-GWF-MW-15-2 12/16/2014 Field Sample	WL-GW-MW-15-1 8/12/2014 Field Sample	WL-GW-MW-15-2 12/16/2014 Field Sample	
<b>VOCs (ug/L)</b>												
1,1,1-Trichloroethane	200			3.5	0.11 J	8.7			39	56		
1,1,2-Trichloroethane				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
1,1-Dichloroethane	2.8			4.4 J	0.5 U	16			28	33		
1,1-Dichloroethene				0.9 J	0.5 U	3.7			9.6	8.2		
1,2-Dibromo-3-chloropropane				R	0.5 U	0.5 U			1 U	0.5 U		
1,2-Dichloroethane				R	0.5 U	0.5 U			1 U	0.5 U		
2-Butanone				R	5 U	5 U			10 U	5 U		
Acetone				R	5 U	5 U			10 U	5 U		
Benzene				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
Bromodichloromethane				R	0.5 U	0.55			R	0.5 U		
Bromoform				R	0.5 U	0.5 U			R	0.5 U		
Carbon disulfide				R	0.5 U	0.5 U			1 U	0.5 U		
Chloroethane				R	0.5 U	0.5 U			1 U	0.5 U		
Chloroform				1.2 UJ	0.5 U	1.5			1 U	0.5 U		
cis-1,2-Dichloroethene	70			0.3 J	0.5 U	0.47 J			130	110		
Cyclohexane				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
Ethylbenzene				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
Isopropylbenzene				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
m,p-Xylene				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
Methyl tert-butyl ether				0.19 J	0.5 U	0.59			1 U	0.5 U		
Methylcyclohexane				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
Methylene chloride				R	0.5 U	0.5 U			1 U	0.5 U		
o-Xylene				0.5 U	0.5 U	0.5 U			1 U	0.5 U		
Tetrachloroethene				0.1 J	0.5 U	0.54			1.1	1		
Toluene				0.5 U	0.5 U	0.5 U			1 U	0.19 J		
trans-1,2-Dichloroethene				R	0.5 U	0.5 U			0.27 J	0.25 J		
Trichloroethene	5	98	7	4.9	0.16 J	17			40	51		
Vinyl chloride	2			0.03	0.5 U	6			4.3	4.2		
<b>1,4-Dioxane (ug/L)</b>												
1,4-Dioxane	0.46			0.75					1.9			
<b>Inorganics, Dissolved (ug/L)</b>												
Aluminum				20 U			39.2		20 U			20 U
Antimony				2 U			2 U		2 U			2 U
Arsenic				0.16 J			0.38 J		0.12 J			1 U
Barium				27.1			179		74.8			32.9
Beryllium				1 U			1 U		1 U			1 U
Cadmium				0.14 J			0.55		0.4 U			0.04 U
Calcium				3960			19600		10200			9290
Chromium	100			10300			129 J		21.2			50.6
Chromium, Hexavalent	0.035	31		10100			91.6		14.2 J+			48.8
Cobalt	6			1 UJ			4.6		1.6			1 U
Copper				3.8			2 UJ		2 UJ			2 UJ
Iron				3040 J			31.4 J		200 UJ			24.9 J-
Lead				1 U			0.067 J		0.2 U			0.036 J
Magnesium	15			714 J			4030		2210			2880 J
Manganese	300			52.4			870 J		491			2.7

**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

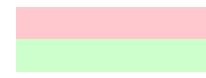
Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	MW-14				MW-15				WL-GWF-MW-16-1 8/4/2014 Field Sample
				WL-GWF-MW-14-3 9/22/2015 Field Sample	WL-GW-MW-14-1 8/12/2014 Field Sample	WL-GW-MW-14-2 12/10/2014 Field Sample	WL-GW-MW-14-3 9/22/2015 Field Sample	WL-GWF-MW-15-1 8/12/2014 Field Sample	WL-GWF-MW-15-2 12/16/2014 Field Sample	WL-GW-MW-15-1 8/12/2014 Field Sample	WL-GW-MW-15-2 12/16/2014 Field Sample	
Mercury				0.2 U				0.2 UJ	0.2 UJ			0.2 UJ
Nickel				1.1				7.5	2.1			0.82 J-
Potassium				991 J				3750	2380			3260 J
Selenium				0.46 J				5 U	5 U			5 U
Silver				1 U				1 U	1 U			1 U
Sodium				159000 J				267000	122000			26900
Vanadium				5 U				5 U	5 U			5 U
Zinc				9.7 J				7.4	18.8			2.6 U
<u>Inorganics (ug/L)</u>												
Aluminum												44.9
Antimony												2 U
Arsenic												0.11 J
Barium												75.9
Beryllium												1 UJ
Cadmium												0.4 UJ
Calcium												10400
Chromium												22.7
Chromium, Hexavalent	100											14.1 J+
Cobalt	0.035		31									1.5
Copper												0.21 J
Cyanide												3.1
Iron												65.8 J
Lead												0.28 U
Magnesium												2390
Manganese	300											
Mercury												
Nickel												
Potassium												
Selenium												
Silver												
Sodium												
Vanadium												
Zinc												
<u>Other</u>												
Dissolved oxygen, field (mg/L)												2.85
ORP, field (mV)												153.7
pH, field (S.U.)												5.58
Spec. cond., field (umho/cm)												350
Temperature, field (deg C)												11.81
Turbidity, field (N.T.U.)												4.2

Residential GW PRG Exceedance      Irrigation GW PRG Exceedance


**TABLE C-5**  
**COMPARISON OF RI GROUNDWATER ANALYTICAL RESULTS, PHASES 1, 2, AND 3 (DETECTED ANALYTES ONLY) TO PRGS**  
**WALTON LONSBURY SUPERFUND SITE**

Parameter	Location: Sample ID: Sample Date: Sample Type:	Residential Groundwater Drinking Water PRGs	Residential Groundwater Irrigation Well PRGs	MW-16					MW-5D			
				WL-GWF-MW-16-2 12/2/2014 Field Duplicate	WL-GWF-MW-16D-2 12/2/2014 Field Duplicate	WL-GW-MW-16-1 8/4/2014 Field Sample	WL-GW-MW-16D-2 12/2/2014 Field Duplicate	WL-GWF-MW-5D-1 8/19/2014 Field Sample	WL-GWF-MW-5D-2 12/9/2014 Field Sample	WL-GW-MW-5D-1 8/19/2014 Field Sample	WL-GW-MW-5D-2 12/9/2014 Field Sample	
Mercury				0.2 UJ	0.2 UJ			0.2 UJ	0.2 UJ			
Nickel				1	1.1			2.2	1.8			
Potassium				3890 J	3980 J			1270	1340			
Selenium				5 U	5 U			5 U	5 U			
Silver				1 U	1 U			1 UJ	1 UJ			
Sodium				37800	38600			75300	78800			
Vanadium				5 U	5 U			5 U	5 U			
Zinc				2.6 U	2.3 U			7.9	7.4			
<u>Inorganics (ug/L)</u>												
Aluminum						22.1	21.5	21			20 U	153
Antimony						2 U	2 U	2 U			2 U	2 U
Arsenic						0.12 J	0.17 J	0.15 J			6.6 J-	9.1
Barium						32.6	40.4	46.8			46.9	51.4
Beryllium						1 U	1 U	1 U			1 U	1 U
Cadmium						0.04 U	0.4 U	0.4 U			0.059	0.4 U
Calcium						9130	11600	13500			34100	37300
Chromium						53	108	129			2.2 J-	2 U
Chromium, Hexavalent						49.8	102	102			0.5 U	0.5 U
Cobalt						1 U	1 U	1 U			5.9	6
Copper						2 UJ	0.17 J	0.27 J			2 UJ	0.82 J
Cyanide						4.7 J	2 J	2.5 U			3.8 J+	2.5 U
Iron						252 J-	200 UJ	200 UJ			4550	5320
Lead						0.56	0.45	0.52			0.2 U	0.65
Magnesium						2810 J	3190	3710			6030	6720
Manganese						6.7	5.4	6.2			928	902
Mercury						0.2 UJ	0.2 UJ	0.2 UJ			0.2 U	0.2 UJ
Nickel						0.93 J-	1.1	1.2			1.7	2.5
Potassium						3190 J	3880	4520			1180	1350
Selenium						5 U	5 U	5 U			5 U	5 U
Silver						1 U	1 U	1 U			1 U	1 UJ
Sodium						26800	37500	43900			74100	77600
Vanadium						5 U	5 U	5 U			5 U	5 U
Zinc						2.9 J+	4.7 J	3.2 UJ			7.9 J+	13 J
<u>Other</u>												
Dissolved oxygen, field (mg/L)						3.96	2.71				0.12	1.28
ORP, field (mV)						265.8	267.8				53.8	87.1
pH, field (S.U.)						5.59	5.57				5.82	5.97
Spec. cond., field (umho/cm)						238	302				687	667
Temperature, field (deg C)						13	12.17				14.4	10.65
Turbidity, field (N.T.U.)						1.7	1.85				3.81	4.11

Residential GW PRG Exceedance



Irrigation GW PRG Exceedance